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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,415	03/21/2001	Robert George Gilde	50002.7USU1	4060

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EXAMINER

GEREZGHER, YEMANE M

ART UNIT	PAPER NUMBER
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2144

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/814,415

Applicant(s)

GILDE ET AL.

Examiner

Yemane M Gerezgiher

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-31 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 21 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/9/2001.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This application has been examined. Claims 1-31 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30, recites "the interface component", which lacks antecedent basis. No "interface component" has been previously defined in the claim.

However, for examination purpose the examiner presumes "the interface component" to mean "the control component" as defined in claim 23.

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Claim Rejections - 35 USC § 102

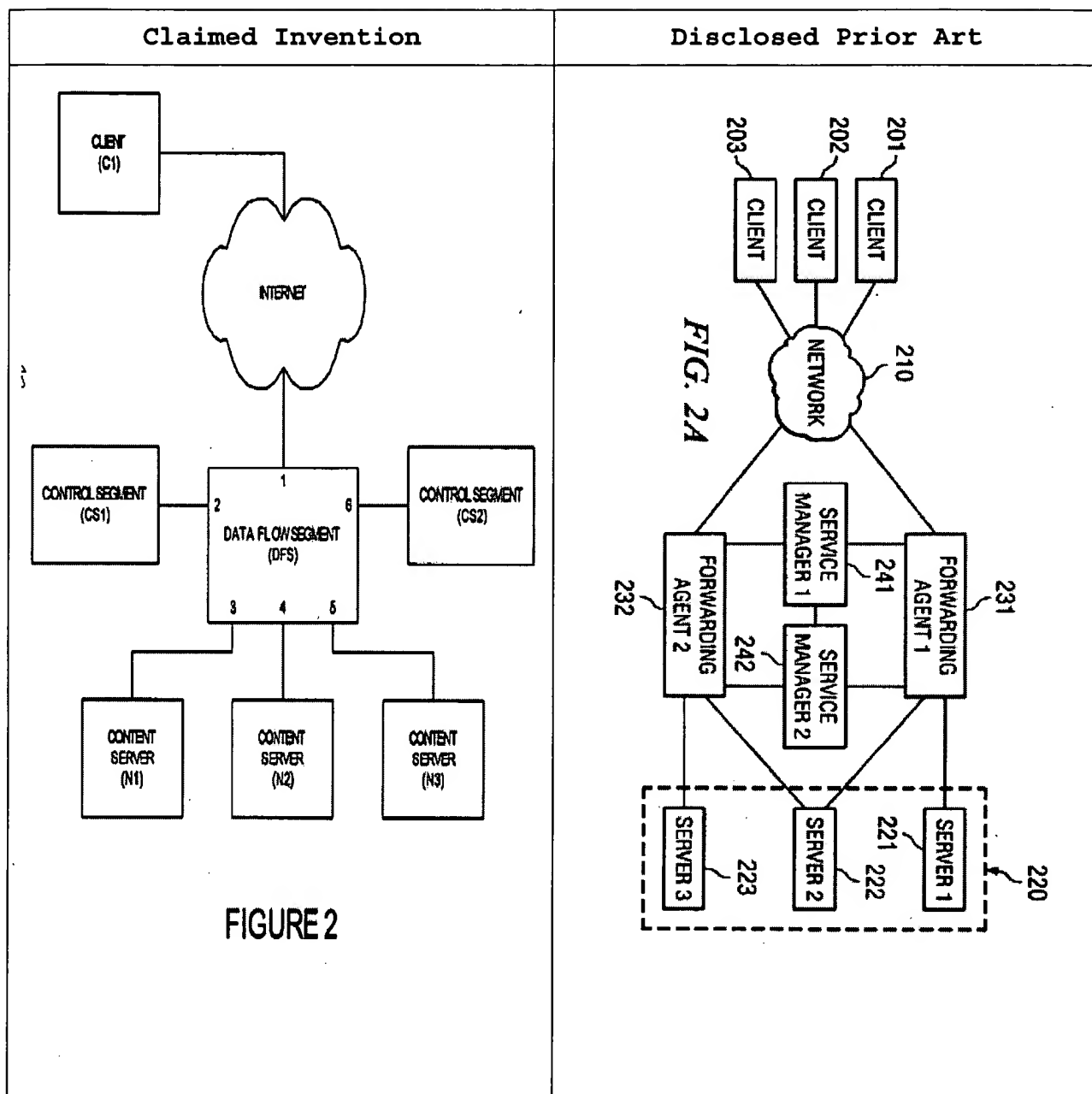
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Albert et al. (U.S. Patent Number 6,650,641) hereinafter referred to as Albert.

As per claims 1, 12, 23, 30 and 31, Albert disclosed a method and an apparatus (See Column 3, Lines 65-67) having therein a controller controlling data flow received from a client(s) and directing the packets of the data flow to an appropriate server. Albert disclosed a forwarding agent correspondent to the claimed language of the invention "flow/switch controller" and service manager equivalent to the "control component" as recited in the claims of the invention.



Albert disclosed a forwarding agent hereinafter referred to as a "flow/switch component" and a service manager hereinafter referred to as "control component".

(a) a control component that receives a data flow requesting a resource and determines when the data flow is unassociated with

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a connection to a requested resource, wherein the control component associates a selected connection to the requested resource when the control component determines the data flow is unassociated with the connection to the requested resource; (See Figures 1, 2A, 3A, 3B, 3C, 4, 5, 11, Column 3, Line 52 through Column 4, Lines 59, Albert disclosed that the control component receiving a request from the flow controller requesting instructions on how to rout a new data flow and where the control component sending instructions detailing how certain data flows of packets are to be processed (See Column 6, Lines 57-63 and Column 7, Lines 8-12) and

(b) a switch component that employs the connection associated with the data flow to direct the data flow to the requested resource, wherein a capacity of the switch component and a capacity of the control component are independently scalable to support the number of data flows that are directed to requested resources over the network. (See Figures 1, 2A, 3A, 3B, 3C, 4, 5, 11, Column 3, Line 52 through Column 4, Lines 59, Albert disclosed the invention with the objective of providing a scalable controller having therein control component and slow/switch component building independently scalable by adding control components in order to handle client domains when needed

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(See Column 15, Lines 14-64, Column 9, Lines 47-53 and Column 10, Lines 14-21).

Albert disclosed the invention as follows:

A control component 241 and a second control component 242 also communicate with the flow/switch components. The control components provide the decision making capability that is required to provide a network service such as load balancing. The control components send specific instructions to each of the flow/switch components detailing how certain flows of packets are to be processed. Such packet processing may include simply routing the packet, gathering statistics about the packet, sending the packet to a control component, sending a notification that the packet has been seen to a control component, modifying the packet, or using a special method such as tunneling or tag switching to send the packet to a destination other than the destination specified by the destination IP address included in the packet header. It should also be noted that flow/switch components in other embodiments also modify other aspects of packets, including packet source and destination addresses and port numbers and, in some instances, packet data.

The control components communicate with the flow/switch components to give the flow/switch components instructions relating to how to handle packets for various flows that are routed through the flow/switch components. It is useful at this point to review certain terminology used herein relating to connections and flows.

(See Column 6, Line 57 through Column 7, Line 22).

Affinity keys are used by the control components to identify flows passing through flow/switch components which are to be handled by the flow/switch components in a certain manner. Flow/switch components can accomplish their required tasks with only limited processing capability. Flow/switch components need not determine how to handle certain flows or make decisions such as load balancing or security decisions relating to the flows. The control component performs those functions and forwards specific instructions to flow/switch

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components detailing exactly what actions are to be taken for each flow. Instructions for how to handle packets are specified for each flow by the control components using an affinity key. A specific affinity key that is sent to a flow/switch component together with instructions detailing how packets for flows specified by the affinity key are to be handled is referred to as a fixed affinity.

In addition to specifying instructions for each flow, control components must also obtain information about each new flow from the flow/switch components. For example, when a control component provides load balancing through a set of flow/switch components, the control component uses fixed affinities to provide specific instructions to the flow/switch components detailing where packets for each load balanced flow are to be forwarded. In addition to providing those specific instructions, the control component also provides general instructions to each flow/switch component that specify which new flows the control component is interested in seeing. These general instructions are provided using wildcard affinities. Wildcard affinities, which are described in detail below, specify sets of flows that are of interest to a control component. In one embodiment, this is done by specifying subnet masks that determine sets of source and destination IP addresses that will be forwarded to a control component. In addition, ports or sets of ports and protocol may be specified in wildcard affinity as well. As is described further below, the use of wildcard affinities enables separate control components to be configured to provide services for different sets of flows. Each control component specifies the flows of interest to it and other control components handle other flows. In this manner, control components can be configured in parallel to share load.

(See Column 7, Line 58 through Column 8, Line 30).

As per claims 2-4, Albert disclosed a control component and a switch or a flow component processing data packets performing as a router and a switch and directing data flows to an

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appropriate service as disclosed above. Having said that the control component making use of a buffer/table to store the data packets belonging to a connection was inherent aspect of the disclosed invention of Albert.

As per claims 5 and 6, Albert taught a control component been notified when events associated with the packets in the data flow took place and where the control component determined with the specific packet in a connection and future packets for the flow based on the service provided. See Column 9, Lines 11-45 and Column 10, Line 61 through Column 11, Line 3.

As per claims 7-9, 19 and 29, Albert disclosed a flow (data flow) of packets having there in a mark/signature related to the flow of packets where the flow mark having therein a source and destination IP addresses for all the packets in the flow. See Column 16, Lines 57-67 and Column 7, Lines 13-22.

As per claim 13, Albert disclosed a control component performing control and policy enforcement action for the connection flows. Column 13, Lines 15-29.

As per claims 10 and 14, Albert disclosed that the control component collecting information about routing and gathering statistical information of each packet in the data flow. See

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Column 6, Line 63 through Column 7, Line 7 and Column 13, Lines 9-15. **Albert** further disclosed that the control component-performing load balancing for the packet flows in the clustered system (claim 15, See Column 8, Lines 8-54, Column 6, Lines 57-63, Column 11, Lines 41-46 and Column 20, Lines 20-33), and where therein plurality of control components ("primary and secondary control components") sharing the processing task in directing data flows providing state information of each flows (claim 16). See Figures 4 and 5, Column 21, Lines 8-24 and Column 13, Line 30 through Column 14, Line 59.

As per claims 11, 17 and 18, Albert disclosed a network service appliance ("a server array controller") having therein the flow/switch component and the control component where the network service appliance is interfaced to the internal and external global network. See Figures 1, 2A, 4 and Column 10, Lines 5-28 and Column 13, Lines 1-29.

As per claim 20, Albert disclosed a time stamp (time to live) in each of the data flows (See Column 16, Lines 57-67) and the control component performing load balancing to select the host based on factors such as hosts with least number of connections, fastest available host and a host determined by a

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feedback mechanism that measures the performance of the hosts/servers. See Column 28, Lines 20-64.

As per claims 21 and 22, Albert disclosed a TCP and UDP sessions associated with the data flow control apparatus and determining new data flow according to detection of an event. See Column 7, Lines 8-22, Column 9, Lines 11-45 and Column 25, Lines 21-50.

As per claim 24, Albert disclosed that the control component sending the information as a multicast or unicast message. See Column 11, Lines 4-51. Albert further disclosed responding to the messages from the host back to the client/user (claim 25). See Column 18, Lines 52-59, Figure 3B and Column 12, Lines 9-38.

As per claims 26 and 27, Albert disclosed the control component and the flow/switch component been interfaced and communicating using a TCP and UDP sessions and sharing state information having therein a service message header ("ssmb") layered on a TCP session over an IP packet and where the communication was independently performed between the control component and the switch/flow component transmission with no timing relationship between the two components (claim 28). See Figure 9E, Figure 4 and Column 29, Lines 5-18.

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Conclusion

6. The prior art made of record (Form PTO-892) and not relied upon is considered pertinent to Applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Yemane Gerezgiher whose telephone number is (571) 272-3927. The examiner can normally be reached on Monday- Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful. The examiner's supervisor, William Cuchlinski, can be reached at (571) 272-3925.

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